The ‘next big thing’

Author_Bruce Lipsig, Director of Imaging for Henry Schein Dental

I recently read a magazine article where the president of one of the leading technology companies in the world was asked what he thought would be the “next big thing” in technology. His answer was along the lines of how amazing cone-beam technology is all by itself. However, I would add that when you integrate that with CAD/CAM, you have the foundation of what could very well be the next big wave in dentistry — computer-guided treatment.

When you dig a bit deeper, what you’ll find is two-fold. These two technologies — cone-beam and CAD/CAM — are some of the most impressive advances in dental technology. Yet, when combined, the sum of these technologies can do even more than either one could do by itself.

Some things are better together. Not only can incredible technologies such as these be integrated with each other, they can be taken even further than integration as far as how they can serve the practitioner.

This brings to mind one of the newest industry buzz words today. That word is “automation”.

Early on in technology, the buzz word was "integration," meaning the ability for two systems to talk back and forth (or just one way), thus allowing those systems to work more closely together, and this was better for the clinician. A good example of this would be the integration between practice management (PM) software and imaging software.

In the past, we had to enter patient ID information into our imaging application as well as our practice management application (double data entry). This was helped along dramatically by linking together the PM and imaging software through some sort of communication bridge that would allow us to enter patient data once in the PM software and then have it automatically appear (or be automatically created) in the imaging software.

This integration became the standard method of interface for many of the technologies you see today as we try to keep all of the digital data found in the dental office linked properly to the patient record.

While integration was a major step toward usability of digital data in the dental office, the real magic would come with the next step in revolutionizing the dental industry, and that would be “automation.” What used to take three software applications could be done with one. What used to take 12 clicks of the mouse could be done with four. It is truly automation, to which the dental industry is looking to help take us to the next level of usability for these incredible new technologies.

While one can discuss the integration of cone-beam and CAD/CAM, what is really happening is the automation of treatment planning and the treatment itself. Implant therapy is an excellent example here. What used to take the collaboration of clinicians can now be centralized into one practitioner, who can “quarterback” the procedure given the proper treatment planning application.

Cone-beam technology is capable of capturing incredibly clear anatomical data of the oral cavity, focusing on an area below the gum line where an intra-oral wand from a CAD/CAM system cannot view. At the same time, the intra-oral wand is becoming more widely used than ever before to acquire a digital map of the oral cavity.

Today, if we are treatment planning implant therapy for a patient, we can now combine data from a cone-beam scan (incredible detail below the gum line) with the intra-oral scan from a handheld intra-oral scanner (the highest resolution image for everything above the gum line). While this may be seen by some as integration, one company has taken this technology a step further with automation of these two technologies.

D4D technologies has created an implant planning software application [E4D Compass] that has the ability to take the digital data from both of these technologies and combine it automatically in a single software application. The data created from these two high-tech machines (cone-beam and an intra-oral scanner) can now be paired together automatically in the E4D Compass software, thus enabling the clinician to have more data than ever before from which to diagnose and treatment plan.

While this technology is relatively new, many industry analysts are already touting it as “the next big thing” as we strive for better ways of treatment planning for new techniques and the highest possible standard of care for our patients.

Technology like this uses some of the newest tools in dentistry and then automates their use to a level whereby basic treatment planning for implant therapy can now be done chairside with the patient. This has also brought about a new theory in the implant
Explore New Opportunities
Two Technologies - One Solution - New Opportunities

E4D Compass™ is the first and only native chairside implant and restorative planning and communication software that combines cone beam data with intraoral scans for restorative-driven implant planning right in your office. E4D Compass works exclusively with the E4D Dentist™ system.

Call 1-800-645-6594 and press 1 or go to www.E4D.com/roi for more information.
‘restorative driven implant therapy means that we approach the implant therapy by taking into consideration the positioning of the restoration in conjunction with the placement of the implant’

world. That theory is “restorative-driven implant therapy,” which simply means that we approach the implant therapy from the restorative point of view by taking into consideration the positioning of the restoration in conjunction with the placement of the implant, rather than just focusing on the placement of the implant and then leaving the clinician to place the restoration.

Consultative and communicative, this technology has the ability to allow the clinician more control of the implant therapy even if he or she is not placing the implant.

Restorative driven implant therapy has been received well in the dental community and will be adopted more as tools such as cone-beam and CAD/CAM become not only integrated together, but automated to perform functions that previously needed the collaboration of many specialists.

The automation of these technologies is what will continue to add value to not only each individual technology as they perform separately, but also to the pairing of these two technologies as we strive for the highest standard of care for our patients._

Bruce Lipsig is the director of imaging for Henry Schein Dental and is also one of the innovators who brought 2-D and 3-D imaging to dentistry.